NOx RECLAIM WORKING GROUP MEETING

JANUARY 21, 2021
JOIN ZOOM MEETING
HTTPS://SCAQMD.ZOOM.US/J/ Ex. 6 Personal Privacy (PP)
MEETING ID: Ex. 6 Personal Privacy (PP)
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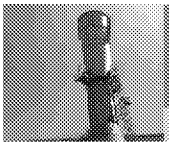
Agenda

- Rulemaking Status on Landing Rules
- Ongoing Efforts and Next Steps
  - Stakeholders requested additional time to provide comments on the RECLAIM Transition Plan
    - Extended comment period to January 22, 2021
  - Staff will discuss stakeholder comments on the RECLAIM Transition Plan at the next Working Group Meeting

RULEMAKING STATUS ON LANDING RULES

Rules Under Development

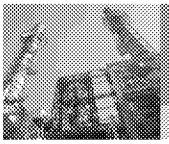


PAR 218 and PR 218.2/218.3 – Continuous Emissions Monitoring Systems

Public Hearing: March 5, 2021

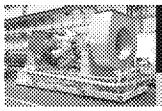
PR 1147.1 – Aggregate Facilities (Will be incorporated into PAR 1147)

Public Hearing: June 4, 2021



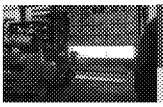
PR 1109.1 – Refinery Equipment

Public Hearing: June 4, 2021



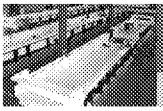
PAR 1147 – Miscellaneous Combustion Sources

Public Hearing: June 4, 2021



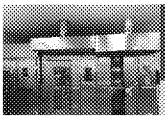
PR 1147.2 – Metal Melting and Heating Furnaces

Public Hearing: August 6, 2021



PR 1159.1 – Nitric Acid Processing Tanks

Public Hearing: November 5, 2021

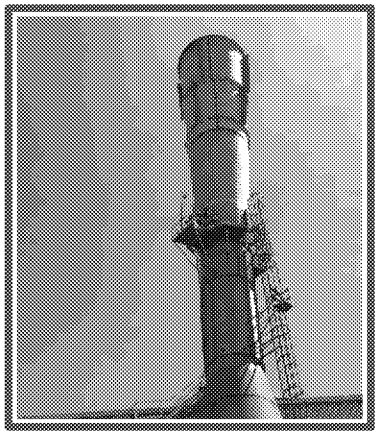


PAR 1153.1 – Commercial Food Ovens

Public Hearing: To-Be-Determined

PAR 218 and PR 218.2 & 218.3 – Requirements for Continuous Emissions Monitoring Systems

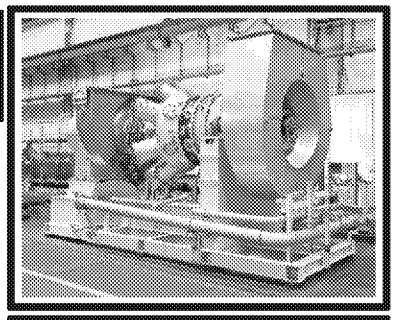
- Streamlined CEMS requirements and performance standards
- Implementation approach proposed for the transition
- Preliminary Draft Rules and Draft Staff Report released December 18, 2020
- Public Workshop: January 6, 2021
- Public Hearing: March 5, 2021

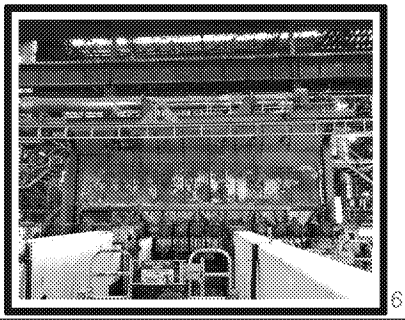


* No amendments needed for Rule 218.1

PAR 1147 – Miscellaneous Combustion Sources

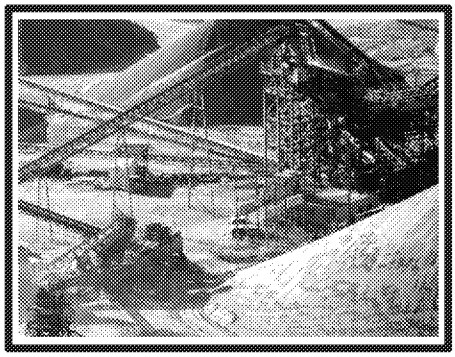
- Working with equipment vendors and burner manufacturers
- Presented cost-effectiveness analysis results for four more equipment categories
- Cost-effectiveness analysis for remaining equipment categories anticipated to be presented at the next Working Group Meeting
- Working Group Meeting: January 20, 2021
- Public Hearing: June 4, 2021





PR 1147.1 – Aggregate Facilities

- Vendor meeting held on October 2, 2020
- Virtual site visit of industrial sand facility conducted on November 5, 2020
- Working Group Meetings December 3, 2020 and January 20, 2021
- After January Working Group Meeting, PR 1147.1 will be incorporated into PAR 1147

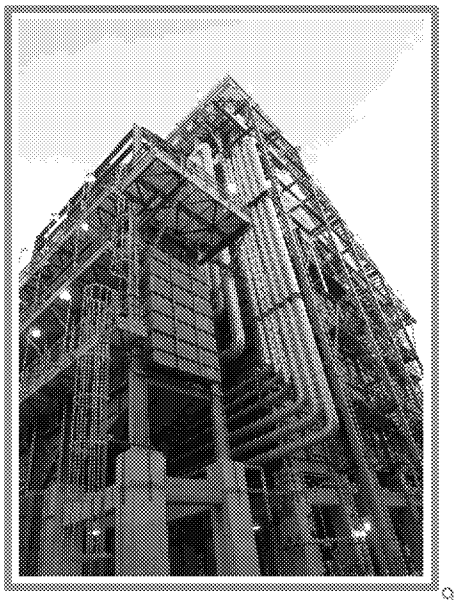


PR 1147.2 – Metal Melting and Heating Furnaces

- 6th Working Group Meeting held on September 3, 2020
- Will be presenting cost-effectiveness for all categories and implementation approach at next Working Group Meeting
- Next Working Group Meeting: January 28, 2021
- Public Hearing: August 6, 2021

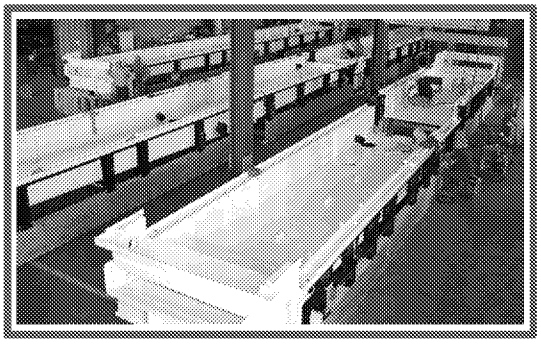
PR 1109.1 – Refinery Equipment

- Scheduling meetings with facilities to discuss BARCT Compliance Alternative Plan (B-CAP)
- Reviewing stakeholder comment letters
- Released 3rd version of Rule Language December 2020
- Next Working Group Meeting: January 27, 2021
- Public Hearing: June 4, 2021



PR 1159.1 – Nitric Acid Processing Tanks

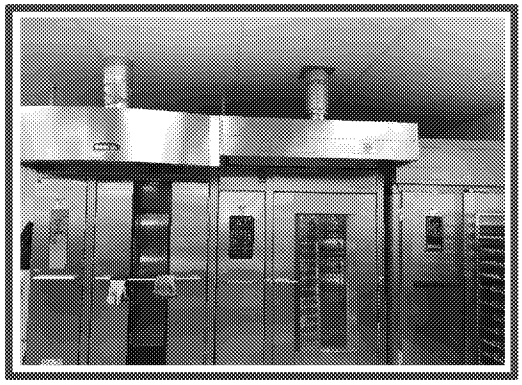
- Addresses NOx emissions from nitric acid processing tanks
- Staff in data gathering phase
- Public Hearing: November 5, 2021



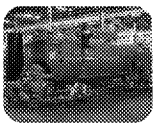
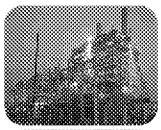
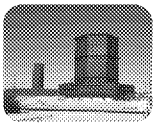
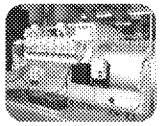
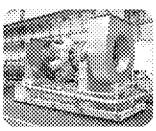
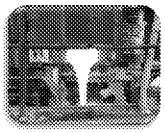
https://tri-mer.com/tanks/polymer-tanks-case-study.html

PAR 1153.1 – Commercial Food Ovens

- Staff identified 6 RECLAIM facilities which operate food ovens, smokers, or dryers that will be subject Rule 1153.1
- BARCT analysis is needed
- Food ovens at RECLAIM facilities will become subject to the requirements of Rule 1153.1
- Public Hearing: To-Be-Determined



Emission Reductions (Tons per Day*)

	Rules 1146, 1146.1, 1146.2 – Boilers, heaters, and steam generators	0.27		Rule 1135 – Electric Generating Facilities	1.7
	Rule 1118.1 – Non Refinery Flares	0		Rule 1110.2 – Gaseous- and Liquid-Fueled Engines	0.29
	Rule 1134 – Gas Turbines	1.8		Rule 1117 – Container Glass Melting/Sodium Silicate Furnaces	0.57

Total NOx Reductions = 4.63 tons per day*

*Sum of NOx reductions from RECLAIM facilities only

Ongoing Efforts and Next Steps

- Continue rulemaking activities
- Continue working with U.S. EPA, CARB, and stakeholders
- Monthly RECLAIM and Regulation XIII NSR Working Group Meetings
- Quarterly Stationary Source Committee updates
- Discuss stakeholder comments on the RECLAIM Transition Plan (Draft Version 2.0) at the next working group meeting

Contacts

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General RECLAIM Questions	Gary Quinn, P.E. Program Supervisor 909-396-3121 gquinn@aqmd.gov		Uyen-Uyen Vo Program Supervisor 909-396-2238 uvo@aqmd.gov
	Isabelle Shine Air Quality Specialist 909-396-3064 ishine@aqmd.gov		Lizabeth Gomez Air Quality Specialist 909-396-3103 lgomez@aqmd.gov

To receive e-mail notifications for Regulation XX or Regulation XIII, sign up at: www.aqmd.gov/sign-up
To view proposed rules and supporting documentation, visit the South Coast AQMD Proposed Rules webpage at:
http://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules

Rule Contacts – Proposed Amended/Adopted

Proposed Rule 1109.1	Heather Farr	Program Supervisor	909-396-3672	hfarr@aqmd.gov
	Sarady Ka	Air Quality Specialist	909-396-2331	ska@aqmd.gov
Proposed Amended Rule 1147	Gary Quinn, P.E.	Program Supervisor	909-396-3121	gquinn@aqmd.gov
	Shawn Wang	Air Quality Specialist	909-396-3319	swang@aqmd.gov
Proposed Rule 1147.1	Gary Quinn, P.E.	Program Supervisor	909-396-3121	gquinn@aqmd.gov
	Steve Tsumura	Air Quality Specialist	909-396-2549	stsumura@aqmd.gov
Proposed Rule 1147.2	Rudy Chacon	Air Quality Specialist	909-396-2726	rchacon@aqmd.gov
	James McCreary	Assistant Air Quality Specialist	909-396-2451	jmccreary@aqmd.gov
Proposed Rule 1156.1	Rudy Chacon	Air Quality Specialist	909-396-2726	rchacon@aqmd.gov
	Isabelle Shine	Air Quality Specialist	909-396-3064	ishine@aqmd.gov
Proposed Amended Rule 219 Proposed Rules 219.2 & 219.3	Gary Quinn, P.E.	Program Supervisor	909-396-3121	gquinn@aqmd.gov
	Yanrong Zhu	Air Quality Specialist	909-396-3289	yzhu1@aqmd.gov

Rule Contacts – Amended/Adopted

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Rule 1110.2	Uyen-Uyen Vo	Program Supervisor	909-396-2238	uvo@aqmd.gov
	Rudy Chacon	Air Quality Specialist	909-396-2729	rchacon@aqmd.gov
Rules 1134 & 1135	Michael Morris	Planning and Rules Manager	909-396-3282	mmorris@aqmd.gov
	Uyen-Uyen Vo	Program Supervisor	909-396-2238	uvo@aqmd.gov
Rule 1146, 1146.1, & 1146.2	Gary Quinn, P.E.	Program Supervisor	909-396-3121	gquinn@aqmd.gov
	Kalam Cheung, Ph.D.	Program Supervisor	909-396-3281	kcheung@aqmd.gov
	Lizabeth Gomez	Air Quality Specialist	909-396-3103	lgomez@aqmd.gov
	Shawn Wang	Air Quality Specialist	909-396-3319	swang@aqmd.gov
Rule 1118.1	Heather Farr	Program Supervisor	909-396-3672	hfarr@aqmd.gov
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Regulation XIII – New Source Review

South Coast AQMD

Working Group Meeting

January 21, 2021

Join Zoom Meeting

https://scaqmd.zoom.us/j/ Ex. 6 Personal Privacy (PP)

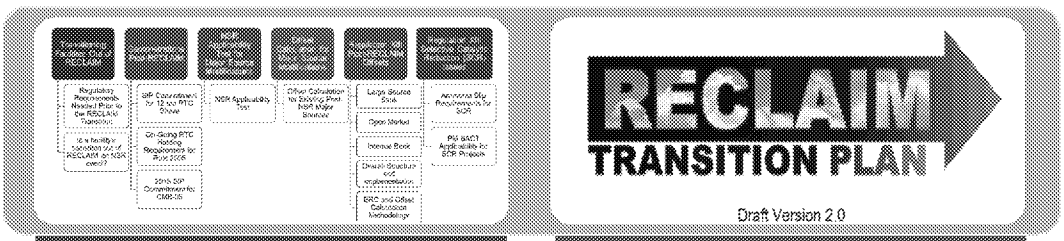
[redacted]

Teleconference Dial-In: Ex. 6 Personal Privacy (PP)

Agenda

- Previous Working Groups Summary
- Status of NSR Issues
- Capacity Utilization for Quantification of Offsets Without Records
- Generation of ERCs for the Open Market
- Responses to Regulation XIII Comment Letters
- Co-Pollutant Strategy

Previous Working Group Meetings Summary



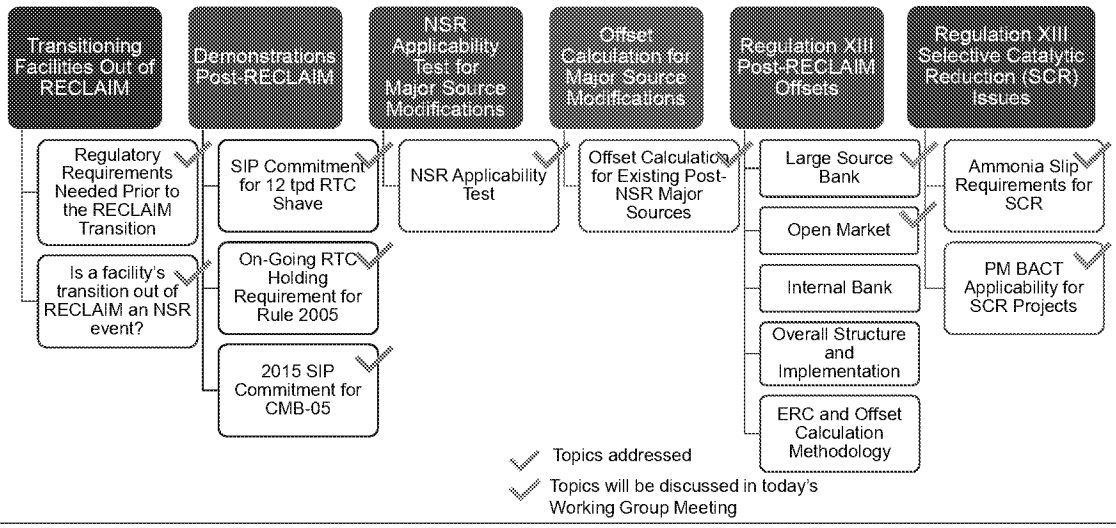
October 2020

- Status of NSR Issues
- Recap of Large Source Bank
- Surplus Discounting of ERCs
- Quantification of Offset and ERCs
- Fee for Generating ERCs
- Conversion of RTCs to ERCs

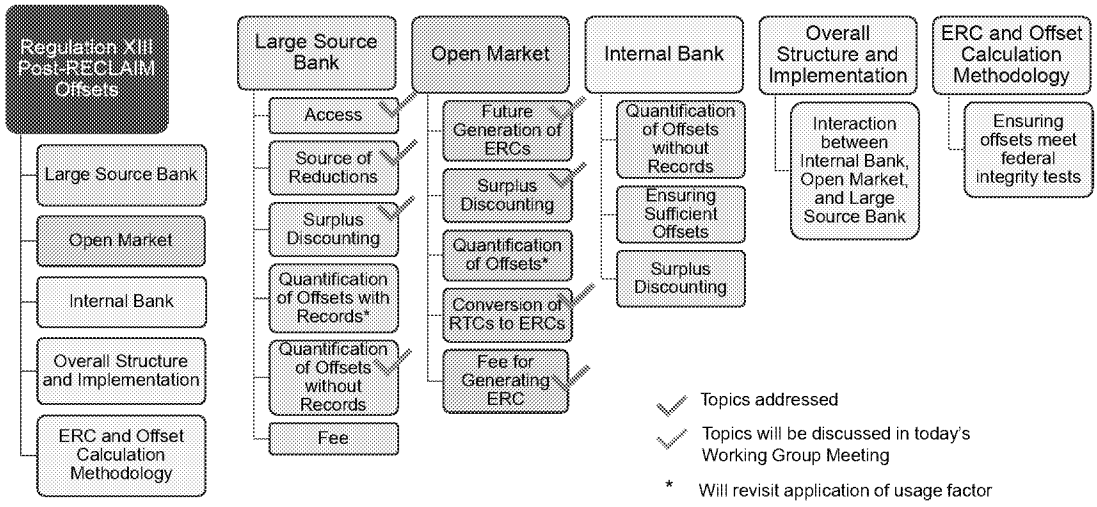
December 2020

- Presented overview of RECLAIM Transition Plan, Draft Version 2.0

Status of NSR Issues



Regulation XIII Offsets Post-RECLAIM



Capacity Utilization for Quantification of Offsets Without Records

Quantification of Offsets Without Records

- Staff has been exploring an approach to quantify Large Source Bank ERCs (L-ERCs) from orphan shutdowns when records are unavailable
- Staff proposed to use a similar quantification approach to the Internal Bank ERCs (I-ERCs) for the Internal Bank
  - Orphan shutdowns are deposited into the Internal Bank based on 80% of the source's Potential to Emit (PTE)[1]
- U.S. EPA has suggested that if a percent of the PTE is used to quantify L-ERCs that:
  - This approach should only be allowed if records are not available
  - Use of the offsets should be limited to non-major sources and modifications
  - South Coast AQMD should reevaluate the percentage of the PTE used to quantify emission decreases to generate offsets when records are not available

[1] Rule 1315 (c)(3)(B)(i) and Rule 1315 Staff Report, pg. 17 (2/4/11): www.aqmd.gov/docs/default-source/agendas/governing-board/2011/2011-feb4-g2b.pdf

Capacity Utilization Rate Background

- Currently under Rule 1315, quantification of orphan reductions and shutdowns for the Internal Bank are based on 80% of the PTE
  - 80% value supported 2009 U.S. Federal Reserve Capacity Utilization rates
    - Calculated at national level (using data from United States Geological Survey, Department of Energy, and survey data from the U.S. Census)
- Capacity Utilization rate is a facility's percentage of maximum sustainable output attained under normal input conditions
  - Typically estimated at industry level, but can be aggregated to cover all industries
- U.S. EPA recommended that staff explore an approach that is more tailored using regional data

Potential Sources of Utilization Rates

- South Coast AQMD's socioeconomic team researched the following potential data sources and approaches to address U.S. EPA's comments
  - Federal Reserve data
  - U.S. Census survey data
  - Institute of Supply Management Report of Business
  - Reliability Estimates
  - Industrial Production (Output and Percent Change)
  - Utility usage rates
- Only Federal Reserve data and U.S. Census survey data provided industry specific data

Two Nationwide Measures of Capacity Utilization

U.S. Census[1]

- Approach: Solicits survey responses from a sample of 7,500 firms across industries
  - Quarterly Survey Plant Capacity Utilization
- Industries Reviewed: Manufacturers (NAICS 31-33) and newspapers
  - Includes review of 94 sets of NAICS Codes
- Methodology: Compute weighted average Capacity Utilization for each industry based on firm's self-reported value of production

Federal Reserve[2]

- Approach: Monthly and quarterly multiple sources of independent data including U.S. Census self-reported survey responses as a base data set
  - Capital inputs
  - Physical production output (where available)
  - Age of equipment
- Industries Reviewed: Mining (NAICS 21), Utilities (NAICS 22), and Manufacturing (NAICS 31-33)
  - Estimate quarterly and monthly values of 45 sets of NAICS Codes
- Methodology: Analyze multiple sources and adjust for historical continuity

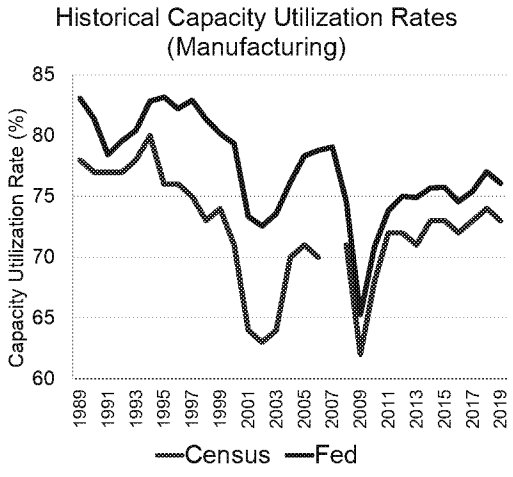
[1] https://www.census.gov/programs-surveys/qpc/technical-documentation/methodology.html
[2] https://www.federalreserve.gov/releases/G17/MethMeth_Cap.htm

Capacity Utilization Data (Excludes Mining and Utilities)

- U.S. Census and Federal Reserve data are similar but Federal Reserve data estimates are consistently higher

Census Quarterly 3 Year Average	Federal Reserve 3 Year Average
73.2%	76.9%

- Federal Reserve data is a more complete look at Capacity Utilization
  - Multiple sources of independent data
  - U.S. Census survey data is incorporated into Federal Reserve data estimates
  - While U.S. Census survey data is somewhat more refined at industry sector level (e.g. more specific NAICS examined), more industry types are reviewed under Federal Reserve (e.g. mining and utilities)



Further Efforts to Examine Capacity Utilization

To tailor the Capacity Utilization, staff examined Capacity Utilization by:

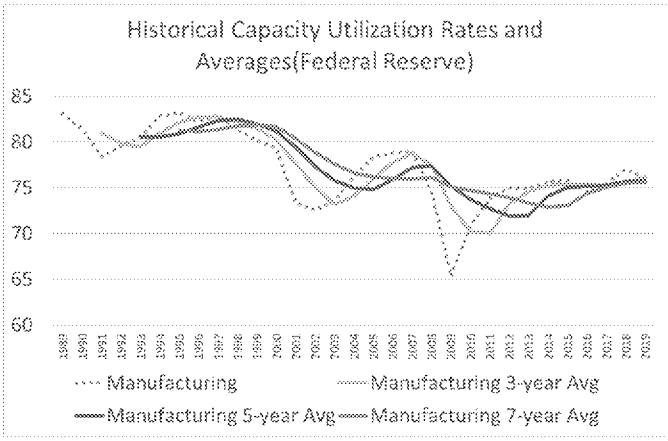
- Four-county specific industrial output data (i.e. Gross Domestic Product (GDP)) from the REMI model used in South Coast AQMD socioeconomic analyses
- Geographical area of South Coast AQMD jurisdiction instead of entire four-county area
- Capacity Utilization weighted by orphan shutdowns rather than GDP
- Capacity Utilization weighted by emissions rather than GDP

Estimated Federal Reserve Utilization Rates

Federal Reserve Comparison for NOx	Utilization Rate (3 yr average)
Four-county by GDP	76.9%
South Coast AQMD geographical area instead of four-county	76.8%
Capacity Utilization weighted by orphan shutdowns rather than GDP	73.9%
Capacity Utilization weighted by emissions rather than GDP	79.4%

Evaluation of Longer Averaging Periods

- Based on input from U.S. EPA, staff evaluated 3-, 5-, and 7- year averaging periods
- Longer averaging provides more smoothing, but generally similar results



Capacity Utilization Summary

- South Coast AQMD's socioeconomic team did not find any other reliable data sources for Capacity Utilization other than the Federal Reserve data and U.S. Census survey data
- Federal Reserve data and U.S. Census survey data are relatively similar
  - Based on the most recent 3-year average, Federal Reserve is about 3% higher
  - Staff used Federal Reserve data because it is a more complete assessment
- Weighting by GDP, orphan shutdowns, and emissions Capacity Utilization estimates ranged from 73.9% to 79.4%
  - Longer averaging periods also resulted in similar estimates
- U.S. EPA is recommending use of conservative Capacity Utilization rate of 70% when no records are available for the Internal Bank and L-ERCs

Generation of ERCs for the Open Market

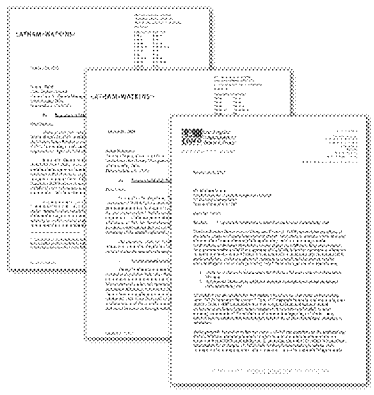
Generation of ERCs for the Open Market

- Staff considered suspending the generation of ERCs for the Open Market until a sufficient supply of NOx, SOx, and PM10 offsets were generated for the Large Source Bank
- Based on stakeholder comments, staff is no longer exploring stopping the generation of ERCs to seed the Large Source Bank
  - Existing ERCs will continue to be sold, traded, and used in the Open Market as currently allowed
- Staff will explore with the Working Group similar surplus discounting and generation requirements for ERCs for the Open Market and offsets for the Large Source Bank

Responses to Regulation XIII Comment Letters

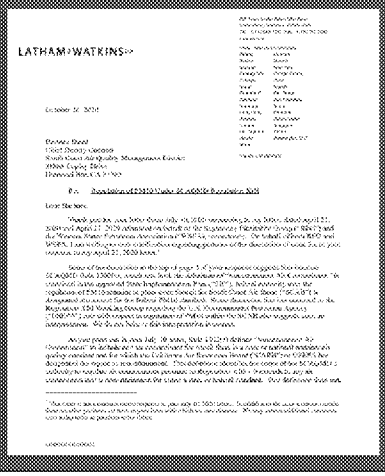
Comment Letters

- Three comment letters were received from:
  - Latham and Watkins on behalf of the Regulatory Flexibility Group (RFG)
  - Latham and Watkins on behalf of the Western States Petroleum Association (WSPA)
  - Los Angeles Department of Water and Power (LADWP)
- Comments focus on the federal applicability test and regulation of PM10 under Regulation XIII:
- Comment letters are available on the proposed rules webpage[1]



[1] http://www.aqmd.gov/hbonsfules-compliance/rules/scaqmd-rule-book/proposed-rules

Latham & Watkins NSR Comment Letter



LATHAM & WATKINS LLP

- South Coast AQMD presented a two-tier NSR applicability test at the August 13, 2020 Working Group Meeting
  - Two-tier test was proposed to determine NSR applicability
    1. Retain existing PTE-to-PTE test
    2. Apply federal applicability test
- Latham & Watkins submitted comments on the proposed NSR applicability test
- Comments focused on:
  - Referencing the federal applicability test
  - Permit limits for the federal applicability test

Latham & Watkins NSR Comment Letter – Incorporating Federal NSR by Reference

- Recommends incorporating federal NSR requirements by reference
  - Effort to directly write federal requirements in Regulation XIII may introduce differences between Regulation XIII and federal requirements
  - Federal guidance might become inapplicable
  - Risk of losing interpretive materials outweighs convenience

Response

- Federal NSR requirements will be incorporated by reference
  - Staff will develop guidance for use of the federal NSR applicability test
- Staff will work with stakeholders if specific requirements are needed to provide clarity or to streamline implementation of the federal applicability test

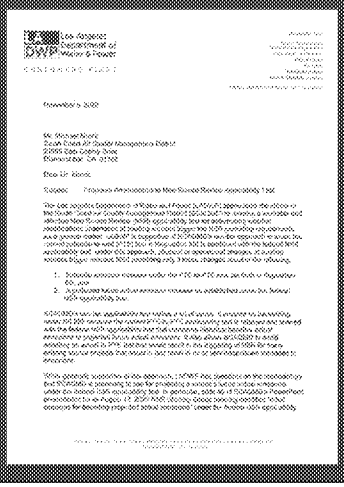
Latham & Watkins NSR Comment Letter – Making Projected Actual Emissions Permit Limits

- Recommends against making projected actual emissions permit limits
  - Federal approach requires "reasonable possibility recordkeeping" to verify projected actual emissions
  - Staff could incorporate recordkeeping and reporting requirements

Response

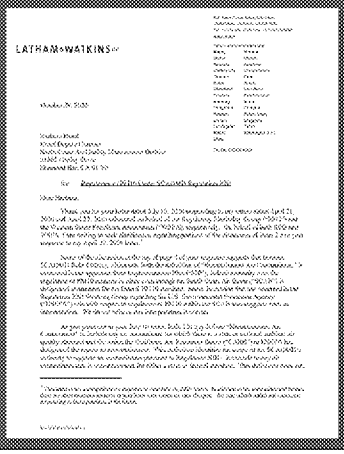
- First tier test (PTE-to-PTE) will be the primary test
- Staff's current thought is that additional permit limits beyond the PTE would not be needed for sources that use projected actual emission when using the federal NSR applicability test
  - PTE-to-PTE will likely capture most sources that are subject to NSR
  - Recordkeeping and reporting will be required since federal NSR requirements will be incorporated by reference

LADWP NSR Comment Letter



- Second comment letter on the federal NSR applicability test submitted by LADWP
- Supportive of the proposed two-tier NSR applicability test
- Requested clarification regarding making projected actual emissions used for the federal NSR applicability test into permit limits
- Concerned that an enforceable permit limit would reduce a source's potential emissions down to its projected future actual emission levels
  - Imposing such a requirement would have the effect of reducing the source's production capacity
  - Removes advantage of layering the federal emission increase test
- Additional permit limits beyond the PTE would not be applied to sources that use the federal NSR applicability test if after applying the PTE-to-PTE test, the source is not subject to NSR

Latham & Watkins PM Comment Letter

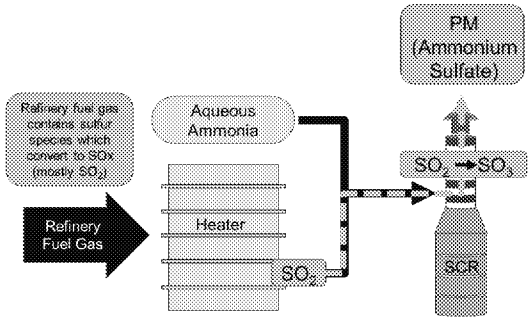


- Requests clarification of South Coast AQMD's July 10, 2020 response to Latham & Watkins regarding regulation of PM2.5
  - Response was to comment letters received on April 21, 2020 from RFG and April 27, 2020 from WSPA
- Staff proposing new co-pollutant strategy to address this concern

Co-Pollutant Strategy

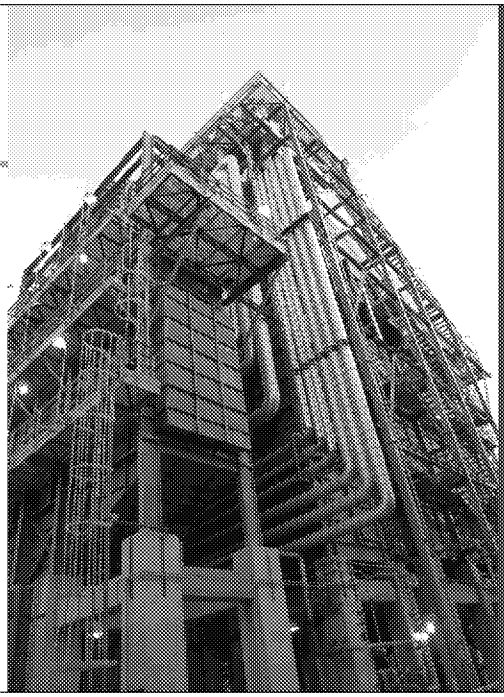
Co-Pollutant Background – BACT Applicability

- Rulemaking discussions for Proposed Rule 1109.1 have highlighted that installations of Selective Catalytic Reduction (SCR) to control NOx emissions from a refinery boiler or heater can result in secondary particulate matter (PM) emissions
- Under Regulation XIII, emission increases exceeding the NSR threshold would require BACT, modeling, and offsetting for PM
  - Regulation XIII threshold for PM10 is one pound per day



Co-Pollutant Issue Significance

- Staff has been working with CARB and U.S. EPA on different strategies to address the co-pollutant issue
- PR 1190.1 will be the most significant command-and-control rulemaking to address NOx emissions
  - NOx emission reduction potential is substantial (7 to 9 tons per day)
- NOx reductions from implementing PR 1109.1 is staff's priority in order to attain federal and state ozone standards
  - South Coast basin is in extreme non-attainment for the federal ozone standard



Proposed Co-Pollutant Strategy

- Other California air districts have provisions that exempt sources from BACT when complying with a BARCT requirement
- Staff is proposing a similar more narrow BACT exemption for PM emissions associated with SCR installations to comply with NOx BARCT requirements
- Proposed BACT exemption will only apply to units utilizing refinery fuel and installing SCR to comply with a NOx BARCT rule
  - Exemption will be limited to rule compliance, e.g., a project that is "solely the addition" of an SCR to comply
  - Exemption will not apply to additional improvements, upgrades, or capacity increases that are included as part of the SCR installation project
  - Exemption would be limited to PM emission increases below the federal NSR thresholds
  - Exemption would not apply to ammonia emissions associated with installation of SCR

SB 288 Applicability

- Adding an exemption for PM co-pollutant emissions for installation of SCR in Regulation XIII is not expected to result in an SB 288 issue
- SB 288 requires no backsliding of South Coast AQMD's NSR provisions that existed as of December 30, 2002
- In 2002, South Coast AQMD had two NSR programs:
  - Regulation XIII for non-RECLAIM facilities
  - Rule 2005 for RECLAIM facilities
- SB 288 baseline for reviewing NSR changes for RECLAIM facilities will be RECLAIM NSR (Rule 2005 and the entire RECLAIM program)
- Incorporating an exemption for these installations in Regulation XIII is not backsliding since the command-and-control provisions for RECLAIM facilities did not exist in 2002

SB 288 Applicability (*Continued*)

- Under RECLAIM, operators have the choice to install pollution controls or purchase RTCs
- Without the proposed command-and-control requirements where SCR is needed to meet NOx limits, it is unlikely that refineries would implement refinery fuel gas projects
  - Refineries would likely purchase RTCs instead of installing SCR as the fuel gas projects are more than $100 million
- Under command-and-control operators must meet the NOx concentration limit
- Staff believes the co-pollutant issue is tied to the proposed command-and-control BARCT requirements that will require SCR

Co-Pollutant Strategy Summary

- Staff is proposing a BACT exemption for PM emissions associated with SCR installations to comply with NOx BARCT requirements
- Staff worked with CARB and U.S. EPA to develop the proposed strategy
  - CARB is supportive of the co-pollutant strategy
  - U.S. EPA agrees that BACT is not triggered unless federal thresholds are exceeded
    - Federal NSR thresholds are 15 ton per year for PM10 and 10 tons per year for PM2.5
- Staff will address refinery fuel sulfur content during the transition of SOx RECLAIM

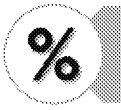
Working Group Meeting Summary

- Capacity Utilization for Quantification of Offsets Without Records
  - U.S. EPA is recommending use of conservative Capacity Utilization rate of 70% when no records are available for the Internal Bank and L-ERCs
- Generation of ERCs for the Open Market
  - Based on stakeholder comments, staff is no longer exploring stopping the generation of ERCs to seed the Large Source Bank
- Responses to Regulation XIII Comment Letters
  - Federal NSR requirements will be incorporated by reference
  - Staff will work with stakeholders if specific requirements are needed to provide clarity or to streamline implementation of the federal applicability test
  - In lieu of permit limits, recordkeeping and reporting will be required since federal NSR requirements will be incorporated by reference
- Co-Pollutant Strategy
  - Staff is proposing a BACT exemption for PM emissions associated with SCR installations to comply with NOx BARCT requirements only for refinery fuel gas

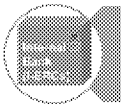
Next Steps

- Staff is currently working on several key aspects for the Large Source Bank
- Expect to discuss each issue in more detail at the February Working Group Meeting

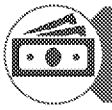
Quantification of Offsets with Records
Revisit application of usage factor



Quantification of Offsets without Records
Reevaluate percentage of PTE used to quantify emission decreases



Offsets for the Internal
Reevaluate analysis to ensure offset availability



Fee
Establish usage fee for the Large Source Bank

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To receive e-mail notifications for Regulation XX or Regulation XIII, sign up at: www.aqmd.gov/sign-up